

REMARKS

In the present Amendment, independent claims 1 and 21 have been amended to incorporate the subject matter of claims 14 and 33, respectively, and to recite that the PCA is removed from the softening agent through a method of selectively extracting with a solvent or a method through hydrogenation treatment. Section 112 support for the amendment is found, for example, in paragraph [0068] of the specification. Claims 14 and 33 have been cancelled. New claims 38 and 39 have been added. Section 112 support for claims 38 and 39 is found, for example, in paragraph [0069] of the specification. No new matter has been added, and entry of the Amendment to place the present application in condition for allowance is respectfully requested.

Upon entry of the Amendment, claims 1-9, 11-13, 15-32 and 34-39 will be pending.

In paragraph No. 3 of the Action, claims 1-9 and 11-37 are rejected under 35 U.S.C. § “102(e)” as being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as being obvious over Hsu et al (US 2002/0120082) or Halasa et al (US 2005/0131181).

Applicants submit that this rejection should be withdrawn because Hsu et al and Halasa et al do not disclose or render obvious the present invention.

In the present invention, by removing the polycyclic aromatic compound (PCA) from the softening agent through the method of selectively extracting with the solvent or the method through hydrogenation treatment as recited in claims 1 and 21, the content of the polycyclic aromatic compound (PCA) in the rubber composition can be not more than 1.0 part by mass based on 100 parts by mass of the rubber component.

As disclosed in paragraph [0067] at page 14 of the specification, PCA acts as a radical trapping agent in the milling of the rubber composition and masks the active site of the

functional group to thereby damage the effect of improving the dispersion. In the present invention, it has been discovered that not only the dispersibility but also the tan δ reducing effect (low heat buildup) in the rubber composition can be attained by using the modified polymer defined in the present claims and restricting the amount of PCA to not more than 1.0 part by mass.

Comparative Examples 4-7 in Table 3 at page 21 of the specification contain 2.1 parts by mass of PCA (10 parts by weight of the softening agent A) in rubber compositions, and it is shown that the effect of lowering tan δ (low heat buildup) is faded by the addition of 2.1 parts of PCA. See, paragraph [0093] at page 22 of the specification.

In contrast, when the PCA content is less than 1.0 part by mass, the effect of lowering tan δ (low heat buildup) is substantially equal. See, Table 4 at page 22, and Table 5 and paragraph [0096] at page 23 of the specification.

Hsu et al and Halasa et al do not teach or suggest the method for removing the polycyclic aromatic compound (PCA). Therefore, the oils used by Hsu et al or Halasa et al still contain a large amount of the polycyclic aromatic compound (PCA), and thereby both of the rubber compositions disclosed in Hsu et al or Halasa et al must contain more than 1.0 part by mass of the polycyclic aromatic compound (PCA) based on 100 parts by mass of the rubber component.

Further, Hsu et al and Halasa et al do not teach the tan δ reducing effect developed by using not more than 1.0 parts by mass of PCA.

Accordingly, the present claims are not anticipated by or obvious over Hsu et al or Halasa et al. Reconsideration and withdrawal of the §§102/103(a) rejection based on Hsu et al or Halasa et al are respectfully requested.

New claims 38 and 39, as well as claims 12 and 31, are patentable over Hsu et al and Halasa et al for at least the same reasons that claims 1-9, 11-13 and 15-32 are patentable over Hsu et al and Halasa et al, as discussed above, and for additional reasons as follows.

Applicants disclose that when not less than 20% by mass of natural rubber and/or polyisoprene rubber is included in the rubber composition, the operability, fracture properties and low heat buildup are improved and the lowering of the wear resistance is suppressed. See paragraph [0070] of the specification.

Further, natural rubber is preferable from a viewpoint of the balance among the performances. In the blend system of the modified polybutadiene rubber and the natural rubber, most of the carbon black is distributed into the modified polybutadiene, so that the effect of improving the dispersion of the carbon black is developed more remarkably. See paragraph [0071] of the specification.

Hsu et al and Halasa et al do not teach or suggest such unexpectedly superior results provided by the present invention.

Allowance is respectfully requested. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

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Respectfully submitted,

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